

Network Camera

Installation Manual

Before operating the unit, please read this manual thoroughly and retain it for future reference.

IPELA

SNC-DF85N/DF85P *DynaView* SNC-DF80N/DF80P *SuperExwave™*

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Owner's Record

The model and serial numbers are located on the bottom. Record these numbers in the spaces provided below.
Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. _____ Serial No. _____

WARNING

To avoid electrical shock, do not open the cabinet.
Refer servicing to qualified personnel only.

WARNING

This installation should be made by a qualified service person and should conform to all local codes.

WARNING

A readily accessible disconnect device shall be incorporated in the building installation wiring.

WARNING (for Installers only)

Instructions for installing the equipment on the ceiling or the wall:
After the installation, ensure the connection is capable of supporting four times the weight of the equipment downwards.

CAUTION

The rating label is located on the bottom.

CAUTION for LAN port

For safety reason, do not connect the LAN port to any network devices that might have excessive voltage.
The LAN port of this unit is to be connected only to the devices whose power feeding meets the requirements for SELV (Safety Extra Low Voltage) and complies with Limited Power Source according to IEC 60950-1 Second Edition.

Power Supply

Caution for U.S.A. and Canada

The SNC-DF85N/DF80N operates on 24 V AC or 12 V DC.
The SNC-DF85N/DF80N automatically detects the power.
Use a Class 2 power supply which is UL Listed (in the U.S.A) or CSA-certified (in Canada).

Caution for other countries

The SNC-DF85N/DF85P/DF80N/DF80P operates on 24 V AC or 12 V DC.
The SNC-DF85N/DF85P/DF80N/DF80P automatically detects the power.
Use a power supply rated 24 V AC or 12 V DC which meets the requirements for SELV (Safety Extra Low Voltage) and complies with Limited Power Source according to IEC 60950-1 Second Edition.

CAUTION

After incorporating the heater unit, the rated power of the camera will be 22 W.

Ensure the power source is capable of providing the total power.

For customers in the U.S.A. (SNC-DF85N/DF80N only)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

All interface cables used to connect peripherals must be shielded in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

For Customers in Canada (SNC-DF85N/DF80N only)

This Class A digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

For customers in other countries

WARNING

This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.
In the case that interference should occur, consult your nearest authorized Sony service facility.

ATTENTION

The electromagnetic fields at specific frequencies may influence the picture of the unit.

For the customers in Europe

The manufacturer of this product is Sony Corporation, 1-7-1 Konan, Minato-ku, Tokyo, Japan.
The Authorized Representative for EMC and product safety is Sony Deutschland GmbH, Hedelfinger Strasse 61, 70327 Stuttgart, Germany.
For any service or guarantee matters please refer to the addresses given in separate service or guarantee documents.

This apparatus shall not be used in the residential area.

- You should keep in mind that the images or audio you are monitoring may be protected by privacy and other legal rights, and the responsibility for making sure you are complying with applicable laws is yours alone.
- Access to the images and audio is protected only by a user name and the password you set up. No further authentication is provided nor should you presume that any other protective filtering is done by the service. Since the service is Internet-based, there is a risk that the image or audio you are monitoring can be viewed or used by a third-party via the network.
- SONY IS NOT RESPONSIBLE, AND ASSUMES ABSOLUTELY NO LIABILITY TO YOU OR ANYONE ELSE, FOR SERVICE INTERRUPTIONS OR DISCONTINUATIONS OR EVEN SERVICE CANCELLATION. THE SERVICE IS PROVIDED AS-IS, AND SONY DISCLAIMS AND EXCLUDES ALL WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO THE SERVICE INCLUDING, BUT NOT LIMITED TO, ANY OR ALL IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR THAT IT WILL OPERATE ERROR-FREE OR CONTINUOUSLY.
- Always make a test recording, and verify that it was recorded successfully. SONY WILL NOT BE LIABLE FOR DAMAGES OF ANY KIND INCLUDING, BUT NOT LIMITED TO, COMPENSATION OR REIMBURSEMENT ON ACCOUNT OF FAILURE OF THIS UNIT OR ITS RECORDING MEDIA, EXTERNAL STORAGE SYSTEMS OR ANY OTHER MEDIA OR STORAGE SYSTEMS TO RECORD CONTENT OF ANY TYPE.
- Always verify that the unit is operating properly before use. SONY WILL NOT BE LIABLE FOR DAMAGES OF ANY KIND INCLUDING, BUT NOT LIMITED TO, COMPENSATION OR REIMBURSEMENT ON ACCOUNT OF THE LOSS OF PRESENT OR PROSPECTIVE PROFITS DUE TO FAILURE OF THIS UNIT, EITHER DURING THE WARRANTY PERIOD OR AFTER EXPIRATION OF THE WARRANTY, OR FOR ANY OTHER REASON WHATSOEVER.
- If you lose data by using this unit, SONY accepts no responsibility for restoration of the data.

Features

This product is a network camera adopting the 1/3 type CCD (SNC-DF85N/DF85P) and SuperExwave™ CCD sensor 1/3 type CCD (SNC-DF80N/DF80P).

The camera has the following features:

- High sensitivity
- Day/night function which can switch between black & white mode and color
- Automatic white balance tracking and adjustment (ATW/ATW-PRO/Dual WB (SNC-DF85N/DF85P))
- Manual setting of the camera direction – panning, tilting and rotating
- Vari-local auto iris lens as standard equipment. The focal length of the lens is from 2.8 mm to 10 mm.
- High quality CCD and clear dome cover enable high sensitivity.
- Backlight compensation through the center measurement (SNC-DF80N/DF80P).
- ×128 Wide Dynamic Range camera with DynaView technology (SNC-DF85N/DF85P)
- 24 V AC / 12 V DC power supply system/ corresponding to PoE.
- 3 video compression formats (video codecs) available: JPEG, MPEG4 and H.264
- Single codec mode and dual codec mode switchable
- Up to 20 users can access an image of a camera simultaneously.
- You can monitor a high-quality live image of 30 frames per second maximum (SNC-DF85N/DF80N) and 25 frames per second maximum (SNC-DF85P/DF80P).
- Date/time can be superimposed on the image.

Notes on Use

Operating or storage location

Do not shoot an extremely bright object (an illumination, the sun, etc.). Also, avoid operating or storing the camera in the following locations, as these can be a cause of a malfunction.

- Extremely hot or cold places (Operating temperature: –10 °C to +50 °C [14 °F to 122 °F])
- Close to heating equipment (e.g., near heaters)
- Close to sources of strong magnetism
- Close to sources of powerful electromagnetic radiation, such as radios or TV transmitters
- Locations subject to strong vibration or shock
- Dusty locations
- Locations under the influence of fluorescent light or reflection of a window
- Under an unsteady light (the image will flicker.)

Ventilation

To prevent heat buildup, do not block air circulation around the camera.

Transportation

When transporting the camera, repack it as originally packed at the factory or in materials of equal quality.

Cleaning

- Use a blower to remove dust from the lens.
- Use a soft, dry cloth to clean the external surfaces of the camera. Stubborn stains can be removed using a soft cloth dampened with a small quantity of detergent solution, then wipe dry.
- Do not use volatile solvents such as alcohol, benzene or thinners as they may damage the surface finishes.

To install the camera outdoors

Attach the dome casing securely to the unit casing.
Make sure you seal the locations listed below with sealant (e.g. silicon sealant) to prevent moisture from getting inside the casing.
– Camera installation holes (4)
– Conduit holes (side/bottom)

Note on laser beams

Laser beams may damage a CCD. You are cautioned that the surface of a CCD should not be exposed to laser beam radiation in an environment where a laser beam device is used.

Typical CCD Phenomena

The following phenomena that may appear in images are specific to CCD (Charge Coupled Device) image sensors. They do not indicate malfunctions.

White flecks

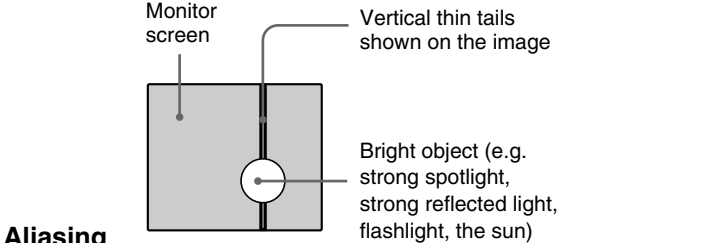
Although the CCD image sensors are produced with high-precision technologies, fine white flecks may be generated on the screen in rare cases, caused by cosmic rays, etc.
This is related to the principle of CCD image sensors and is not a malfunction.

The white flecks especially tend to be seen in the following cases:

- when operating at a high environmental temperature
- when you have raised the gain (sensitivity)

Vertical smear

When an extremely bright object, such as a strong spotlight or flashlight, is being shot, vertical tails may be produced on the screen, or the image may be distorted.



Aliasing

When fine patterns, stripes, or lines are shot, they may appear jagged or flicker.

About the Supplied Manuals

Names of Manuals

The following manuals are supplied with this unit.

Installation Manual (this document)

The Installation Manual describes the names and functions of the parts of the camera, the installation and connections of the camera, etc. Be sure to read it before operating the camera.

User's Guide (stored in the CD-ROM)

The User's Guide describes the setup of the camera and the operations from the Web browser.
To open the User's Guide, see "Using the CD-ROM Manuals" below.

Using the CD-ROM Manuals

The supplied CD-ROM disc includes the User's Guides for this unit (Japanese, English, French, German, Spanish, Italian and Chinese versions) in PDF format.

Preparations

The Adobe Reader Version 6.0 or higher must be installed on your computer in order to use the User's Guide stored in the CD-ROM disc.

Note

If Adobe Reader is not installed, it may be downloaded from the following URL: <http://www.adobe.com/>

Reading the manual in the CD-ROM

1 Insert the CD-ROM in your CD-ROM drive.

A cover page appears automatically in your Web browser.
If it does not appear automatically in the Web browser, double-click on the index.htm file on the CD-ROM.

2 Select and click on the manual that you want to read.

This opens the PDF file of the manual.
Clicking an item in the Table of Contents allows you jump to the relevant page.

Notes

- The files may not be displayed properly, depending on the version of Adobe Reader. In this case, install the latest version, which you can download from the URL mentioned in "Preparations" above.
- If you have lost or damaged the CD-ROM, you can purchase replacement. Contact your Sony service representative.

Adobe, Acrobat and Acrobat Reader are trademarks of Adobe Systems Incorporated in the United States and/or other countries.

Location and Function of Part

The figure shows the camera without the dome casing and slit cover.

Side

① Audio cable (supplied)

The connector with the longer cable is used for the line output connector, and the shorter cable is used for the microphone input connector.

② I/O (Input/Output) cable (supplied)

This cable is provided with a sensor input and two alarm outputs.
The wires of the cable control the following signals.

Color of wire	Name
Red	Sensor In +
White	Sensor In – (GND)
Black	Alarm Out 1 +
Yellow	Alarm Out 1 –
Brown	Alarm Out 2 +
Green	Alarm Out 2 –

For details on each function and required settings, see the User's Guide stored in the supplied CD-ROM.

For the wiring, see "Connecting the I/O cable."

③ Camera head holder

④ Lens

⑤ 24V AC/12V DC (power input) cable

Connect to a 24V AC or 12V DC power supply system.
You can screw an extension cable in the connector tip attached at the end of the cable.

⑥ BNC cable

Outputs a composite video signal. Connect to a composite video input connector of a video monitor, VCR, etc.

⑦ Conduit holes (1/4 inches)

Connect a pipe to this hole. There are two conduit holes on the unit casing, one on the side and one at the bottom. The cover plug is installed in the side conduit hole at the factory. Remove the plug as needed and connect the pipe to the hole.

⑧ Lens ring fixing screw

Loosen this screw before adjusting the zoom and focus, then tighten it to fix the lens position. The screw can be inserted at one of three points.

⑨ Zoom ring

Turn this ring to adjust the field of view.

⑩ Focus ring

Turn this ring to adjust the focus.

Inside

⑪ HEATER unit connector

Connect the cable of the optional YT-HU75 Heater Unit.

⑫ Camera head fixing screw

First loose the screw and face the camera head to the desired direction, then tighten the screw to fix it.

⑬ MONITOR output jack

Connect to a video input connector of a monitor. You can adjust the camera while looking at the image on the monitor. After adjusting the camera, disconnect the cable.

⑭ CF card slot

This slot is used to insert a commercially available CF memory card. Insert the CF memory card with its front side (with the ▲ mark) inward, as far as it goes. (C)

⑮ CF card lever

Press the lever to remove the CF memory card from the CF card slot.

⑯ MIC/SP (Microphone/Speaker) connector

Connect the supplied audio cable to this connector.

⑰ EXT CTRL (External control input/output) connector

Connect the supplied I/O cable to this connector.

⑱ AC / DC IN (power input) connector

Connect an 24V AC / 12V DC cable to this connector.

⑲ VIDEO OUT (Video output) connector

Connect the BNC cable to this connector.

⑳ LAN port (RJ45)

Connect to a hub or computer on the 10BASE-T or 100BASE-TX network using a network cable (UTP, category 5).

㉑ Unit casing

The unit casing is made of die-cast aluminum and has conduit holes on the side and at the bottom.

㉒ Camera installation hole (4 positions)

Make sure to tighten the screws securely when installing the camera.

㉓ Reset switch

To reset the camera to the factory default settings, hold down this switch with a point and supply the power to the camera.

㉔ POWER indicator (green)

When the power is supplied to the camera, the camera starts checking the system. If the system is normal, this indicator lights up.

㉕ LAN indicator (green)

The indicator flashes in green when the camera is connected to the network. The indicator goes off when the camera is not connected to the network.

㉖ Cable clamp (2 positions)

Secure the BNC cable, 24V AC/12V DC cable, I/O cable, audio cable and network cable with these clamps.

㉗ Safety cord

This cord prevents the dome casing from falling off the unit casing. Make sure that the cord does not get caught between the dome casing and the unit casing. Rotate the cord and adjust the position of the cord.

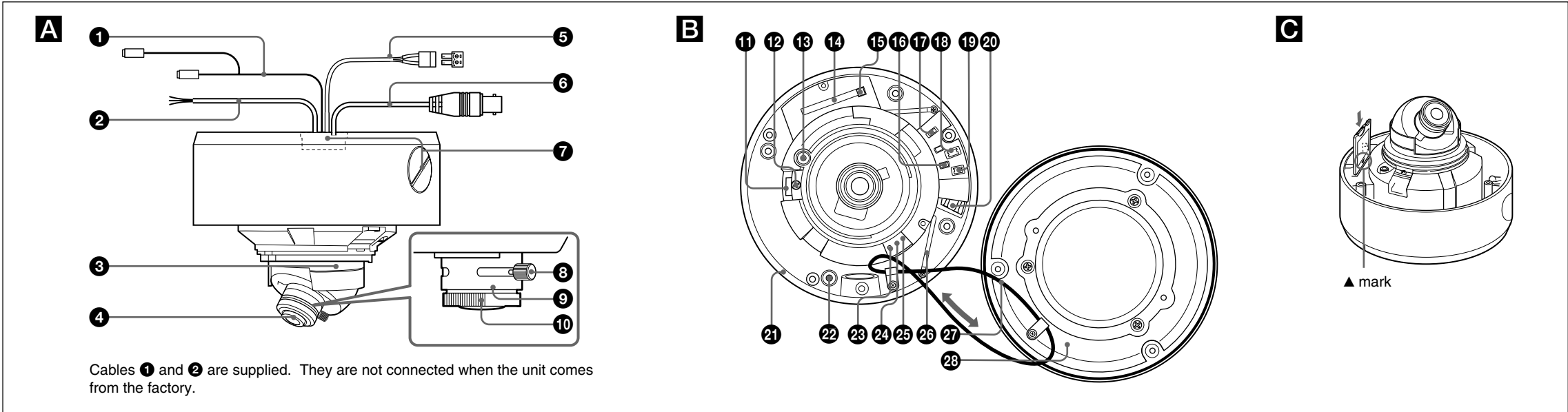
㉘ Dome casing

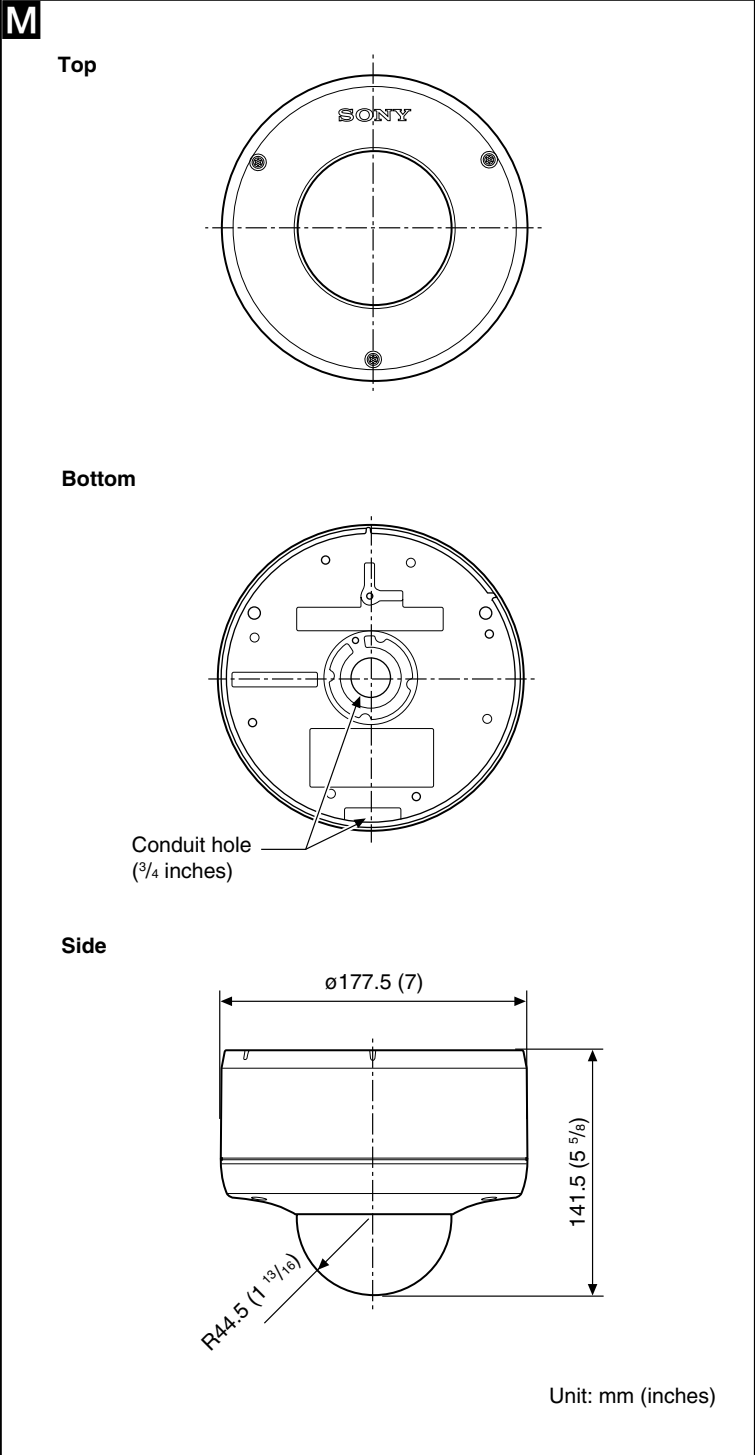
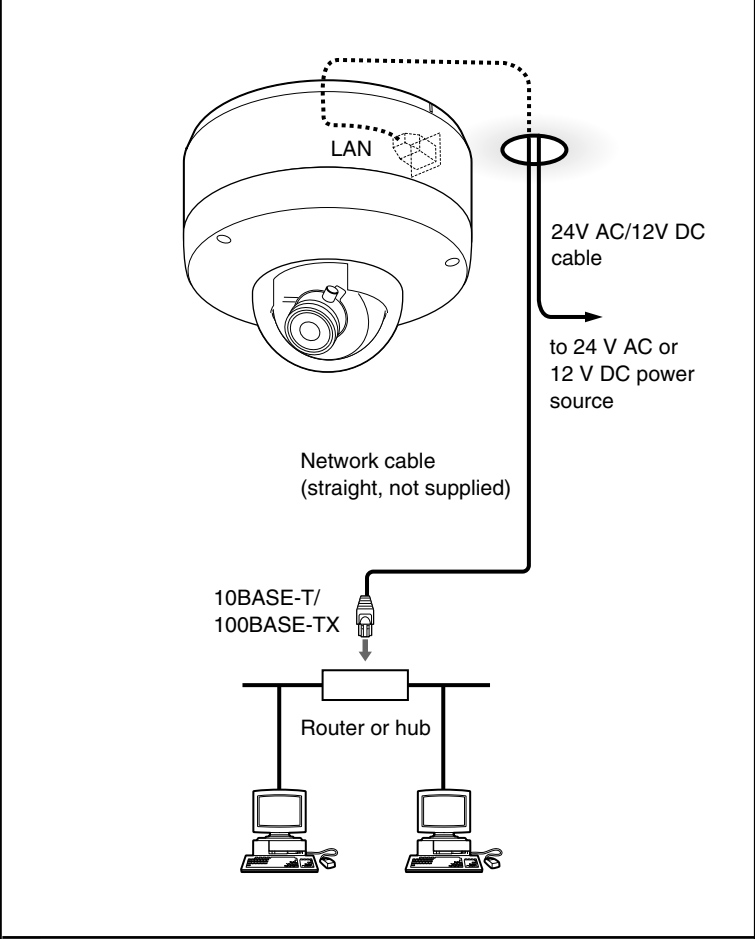
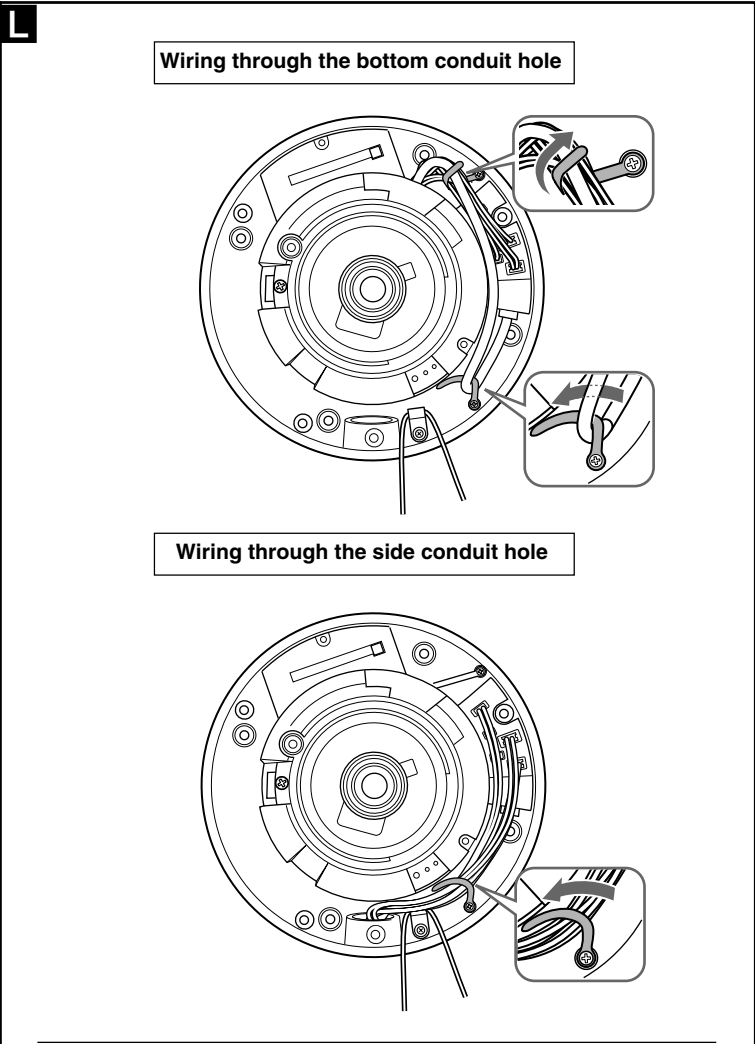
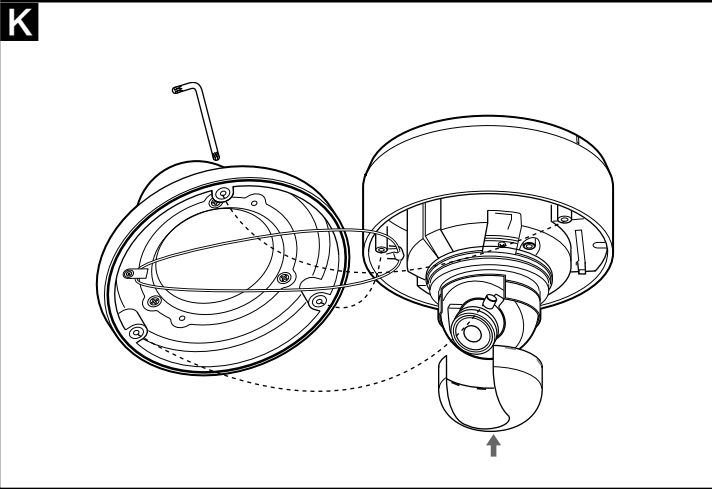
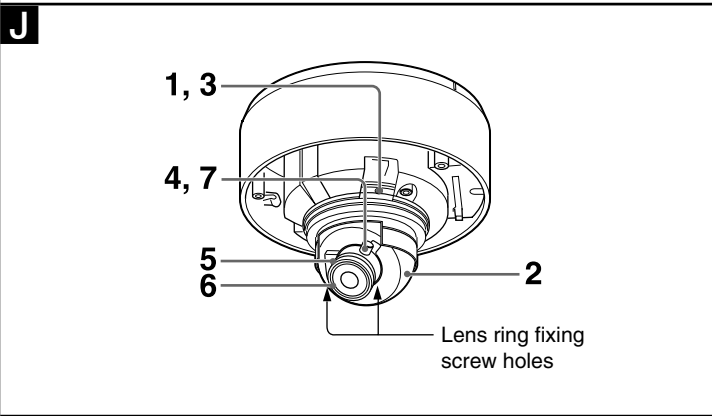
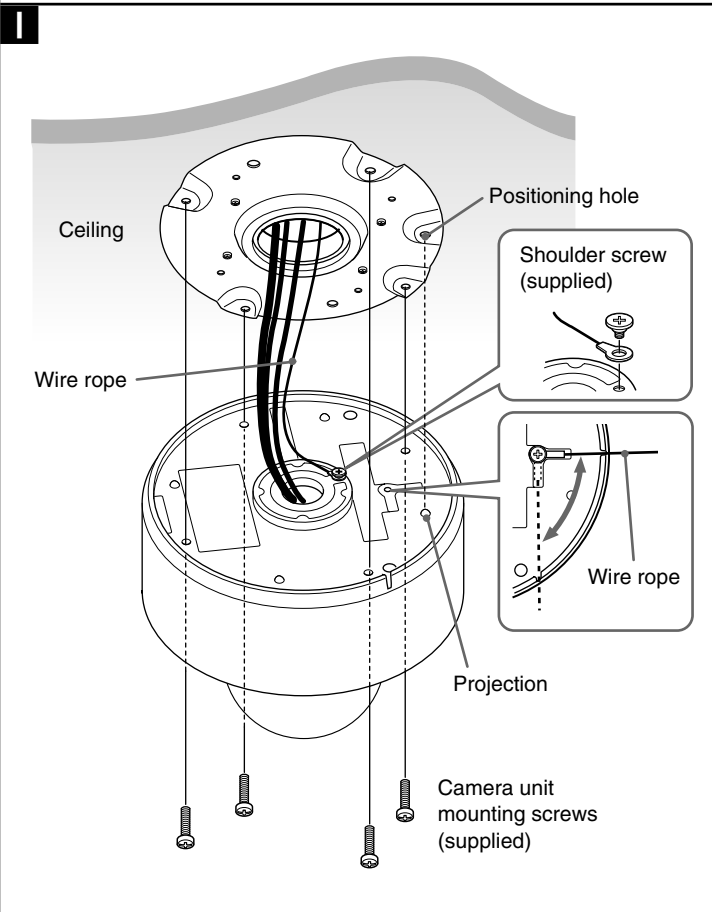
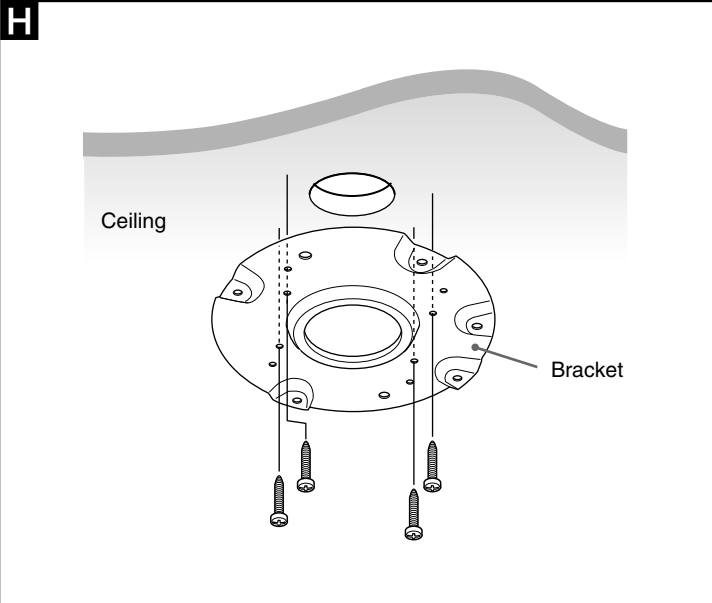
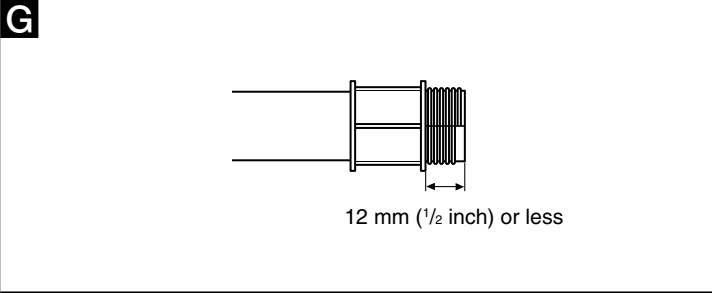
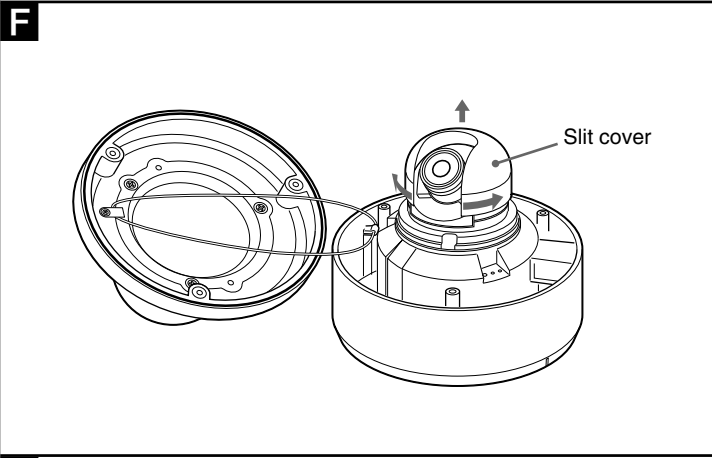
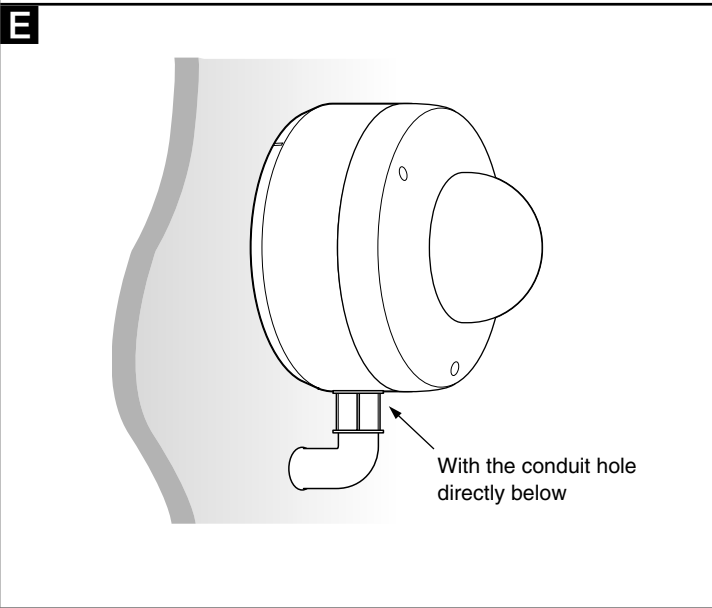
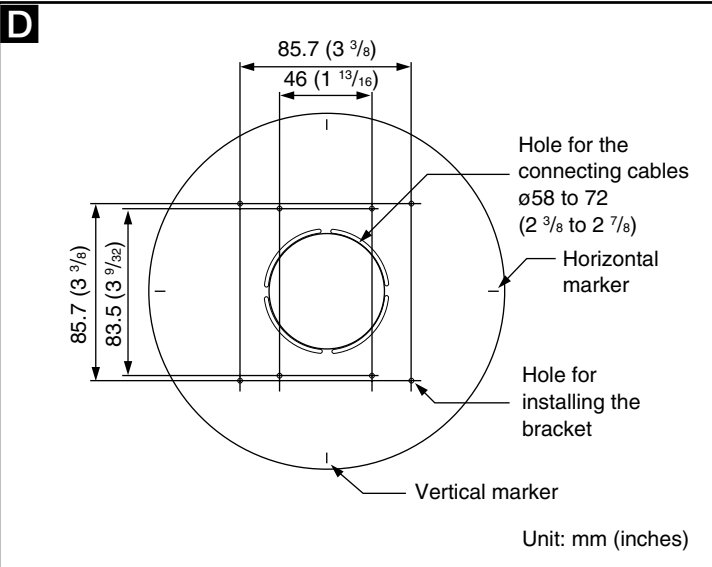
The dome cover is made of polycarbonate. A waterproof rubber gasket is provided on the joint surface to the unit casing.

Monitoring the Camera Image

Install and connect the camera properly following the instructions in this manual, then operate the camera referring to the User's Guide contained in the supplied CD-ROM.

(continued on the reverse side)





Installation

Before Installation

After deciding the direction in which the camera will shoot, make the required hole (ø 58 to 72 mm (2 3/8 to 2 7/8 inches)) for the connecting cables using the supplied template. Then decide the four mounting hole positions to install the bracket. **(D)**

Installing on the wall

When you install the camera on a wall lengthwise, position the side conduit hole directly below to prevent moisture from getting inside the casing. **(E)**

Mounting screws

The supplied bracket is provided with eight ø 4.5 mm (3/16 inch) mounting holes. Install the bracket on a ceiling or wall with screws through these four of the eight holes.

The required mounting screws differ depending on the installation location and its material. (Mounting screws are not supplied.)

Steel wall or ceiling: Use M4 bolts and nuts.

Wood wall or ceiling: Use M4 tapping screws. The panel thickness must be 15 mm (9/16 inch) or more.

Concrete wall: Use appropriate anchors, bolts and plugs for concrete walls.

Junction box: Use screws to match the holes on the junction box.

WARNING

The required mounting screws differ depending on the installation location and its material. If you do not secure the camera with the appropriate mounting screws, the camera may fall off.

Installing the Camera

- Remove the dome casing.
Loosen the three dome casing screws with the supplied wrench, and remove the dome casing.
- Remove the slit cover.
Remove it expanding the slit cover. **(F)**
- Check the conduit of the cables.
The cables are set up at the factory to pass through the bottom conduit hole. If you want to use the side conduit hole, perform the following steps:
 - Remove the conduit hole cover.
 - Disconnect the cables from the connectors, and pull them out from the bottom conduit hole.
 - Insert the cables through the side conduit hole, and connect the cables to their respective connectors.
 - Attach the conduit hole cover that was removed from the side conduit hole to the bottom conduit hole.

Notes

- If the bottom conduit hole is dirty, the conduit hole cover cannot be fixed firmly. In this case, moisture may leak into the casing and this may cause a malfunction. Wipe off the dust with a soft cloth, and fix the conduit hole cover firmly.
- Cover the joint part of the pipe/cover with silicon sealant, etc. to prevent moisture from getting inside the casing.
- Use a pipe/plug with a thread length of 12 mm (1/2 inch) or less so that it does not damage the camera. **(G)**

- Connect the cables.
Feed the network cable through the conduit hole and connect it to the LAN port of the camera unit.
When you use the supplied audio cable and/or I/O cable, feed the cable through the conduit hole and connect it to the appropriate connector. Connect the audio cable to the MIC/SP connector, and the I/O cable to the EXT CTRL connector.
Then secure the cables with the cable clamps.
For the wiring, see Fig. L.
- Install the supplied bracket on the ceiling or wall. **(H)**
Refer to "Mounting screws" for screws to be used.
- When installing on a ceiling or wall, fix the supplied wire rope to the camera and the ceiling or wall. **(I)**
- There are two screw holes for wire rope on the bottom of the camera. Fix the wire rope with the supplied shoulder screw as required.
- Fix the wire rope to the ceiling or wall.
- Attach the camera unit to the bracket with the supplied camera unit mounting screws. **(J)**
Turn the camera unit to click and fix one of the projections on the bottom of the camera to the positioning hole of the bracket. There are four projections with an angle of 90 degrees, so you can select one of four directions.

WARNING

- If you want to install the camera at a height such as on a ceiling, entrust the installation to an experienced contractor or installer.
- If you install the camera at a height, ensure that the installation location and its material are strong enough to withstand a weight of 20 kg (44 lb 1 oz) or more, and then install the camera securely. If they are not strong enough, the camera may fall and cause serious injury.
- To prevent the camera from falling, be sure to attach the supplied wire rope.
- If you install the camera at a height, check periodically, at least once a year, to ensure that the connection has not loosened. If conditions warrant, perform this periodic check more frequently.

Note

If you cannot use screws on a ceiling or wall, or if you want to hide the camera to be less conspicuous, use the YT-ICB45 in-ceiling bracket (optional) with which you can mount the camera on the ceiling.

Adjusting the Camera Direction and Coverage

- Loosen the camera head fixing screw.
- Adjust the camera to turn the lens in the desired direction.
- Tighten the camera head fixing screw to fix the camera.
- Loosen the lens ring fixing screw.
- Turn the zoom ring to adjust the angle of view.
- Turn the focus ring to adjust the focus.
- Tighten the lens ring fixing screw to fix the zoom and the focus.
- Repeat steps 1 to 7 until the coverage and the focus are determined.

Notes

- When you adjust the camera head angle without loosening camera head fixing screw, an internal metallic part may be damaged.
- If the camera head is too heavy to be adjusted, loosen the camera head fixing screw until it moves freely.
- When the lens is not put in the slit of the camera head holder, the moving range of the camera head is limited.
- Do not turn the lens more than 360 degrees. As this may damage the wiring inside.
- There are three screw holes for fixing the lens ring at 120 degree intervals. If the lens ring fixing screw poses a problem for adjusting the camera direction and coverage due to the direction of the camera head, detach the screw and reattach it to another screw hole, then adjust the camera direction and coverage again.
- When adjusting the angle, be sure that the TOP mark on the camera head section faces the ceiling. If the camera is installed with the TOP mark facing the floor, the image appears upside down.

Attaching the Dome Casing

- Attach the slit cover.

Notes

- The proper position of the slit cover is slightly apart from the camera mount. Do not push in by force.
- If you cannot attach the slit cover because the barrier of the lens ring fixing screw prevents it, attach the lens ring fixing screw to another screw hole. There are three screw holes for the lens ring fixing screw on the concentric circle.

- Fix the dome casing and the camera unit.
Align the three screw holes on the dome casing with those on the camera unit, and tighten the screws with the supplied wrench to secure the dome casing and unit casing.

Connection

Connecting to the network

Connect the LAN port of the camera unit to a router or hub in the network using the network cable (straight, not supplied). Arrange wiring of the network cable and secure it with the cable clamps, as shown in the figure.

To connect to a computer

Connect the LAN port of the camera unit to the network connector of a computer using the network cable (cross, not supplied).

Connecting the power source

There are three ways to supply the power source to this product, as follows.

- 12 V DC
- 24 V AC
- Power supply equipment pursuant to IEEE802.3af (PoE* system)

*PoE means Power over Ethernet.

Note

If the power is supplied from the power input terminal and LAN port at the same time, the power from the LAN port has priority over the other.

Connecting to 12 V DC or 24 V AC source

Connect the 24 V AC/12 V DC cable to a 12 V DC or 24 V AC source.

- Use a 12 V DC or 24 V AC source isolated from 100 to 240 V AC. Each usable voltage ranges are as follows.
12 V DC: 10.8 V to 13.2 V
24 V AC: 21.6 V to 26.4 V
- Use UL cable (VW-1 style 1007) for these connections.

Connecting to the power supply equipment pursuant to IEEE802.3af

The power supply equipment pursuant to IEEE802.3af supplies the power through a LAN port.

For details, refer to the Instruction Manual of the equipment.

Connecting the I/O cable

Connect the wires of the I/O cable as follows:

Wiring diagram for sensor input

Mechanical switch/open collector output device

Wiring diagram for alarm output

Specifications

Network	
Protocol	TCP/IP, ARP, ICMP, HTTP, FTP (server/client), SMTP (client), DHCP (client), DNS (client), NTP (client), SNMP (MIB-2), RTP/RTCP
Compression	
Video compression format	JPEG/MPEG4/H.264
Audio compression format	G.711/G.726 (40,32,24,16 kbps)
Image size	640 × 480 (VGA), 320 × 240 (QVGA), 160 × 120 (QQVGA)
Maximum frame rate	SNC-DF85N/DF80N: 30 fps SNC-DF85P/DF80P: 25 fps
Web browser	Internet Explorer Ver. 6.0 or higher Available OS: SNC-DF85N/DF85P Microsoft Windows XP, Windows Vista SNC-DF80N/DF80P Microsoft Windows 2000, Windows XP, Windows Vista
Computer environments	CPU: Pentium 4, 1.5 GHz or higher (Pentium 4, 2.4 GHz or higher recommended) RAM: 256 MB or more Display size: 1024 × 768 20 users
Maximum user access	20 users
Network security	Password (basic authentication), IP filtering
Homepage customization	Starting from a homepage in the built-in flash memory or a CF memory card possible.
Other functions	Detection, image trimming, built-in clock, etc.
Camera	
Signal system	SNC-DF85N/DF80N: NTSC color system SNC-DF85P/DF80P: PAL color system
Image device	SNC-DF85N/DF85P: 1/3 type interline transfer CCD SNC-DF80N/DF80P: 1/3 type interline transfer (SuperExwave™) CCD Total picture elements: SNC-DF85N/DF80N: Approx. 410,000 SNC-DF-85P/DF80P: Approx. 470,000 Effective picture elements: SNC-DF85N/DF80N: Approx. 380,000 SNC-DF85P/DF80P: Approx. 440,000
Synchronization	Internal synchronization
Horizontal resolution	SNC-DF85N/DF85P: 480 TV line (analog video) SNC-DF80N/DF80P: 540 TV line (analog video)
Video S/N	50 dB (AGC OFF)
Minimum illumination	SNC-DF85N/DF85P: Color: 0.7 lx (AGC ON, F 1.3, 50 IRE) Black & White: 0.15 lx (AGC ON, F 1.3, 50 IRE) SNC-DF80N/DF80P: Color: 0.6 lx (AGC ON, F1.3, 50 IRE) Black & White: 0.06 lx (AGC ON, F1.3, 50 IRE)
AGC	ON/OFF
Shutter speed	Manual SNC-DF85N/DF80N: 1/60-1/10000 sec. SNC-DF85P/DF80P: 1/50-1/10000 sec.
White balance	ATW ATW-PRO Dual WB (SNC-DF85N/DF85P)
Lens (standard equipment)	
Focal length	2.8 to 10 mm
Maximum relative aperture	F1.3
View angle	Vertical 73.9° to 20.8° Horizontal 100.8° to 27.7°
Minimum object distance	300 mm
Interface	
LAN port	10BASE-T/100BASE-TX, auto negotiation (RJ-45)
I/O port	Sensor input : × 1, make contact, break contact Alarm output : × 2, 24 V AC/DC, 1 A (mechanical relay outputs electrically isolated from the camera)
Video output	VIDEO OUT: BNC, 1.0 Vp-p, 75 ohms, unbalanced, sync negative
CF card slot	Type I
Microphone input	Minijack (monaural) Plug-in-power supported (rated voltage: 2.5 V DC)
Line output	Recommended load impedance 2.2 khoms Minijack (monaural), Maximum output level: 1 Vrms
Others	
Power supply	12 V DC ± 10% 24 V AC ± 10%, 50/60 Hz PoE
Power consumption	10 W max. 22 W max. with the optional YT-HU75 Heater Unit
Operating temperature	-10 °C to +50 °C (14 °F to 122 °F)
Storage temperature	-20 °C to +60 °C (-4 °F to +140 °F)
Operating humidity	20 to 80 %
Storage humidity	20 to 95 %
Dimensions (diameter/height)	177.5 × 141.5 mm (7 × 5 5/8 inches) not including the projecting parts
Mass	Approx. 1.9 kg (4 lb 3 oz), not including cables
Supplied accessories	CD-ROM (User's Guide and supplied programs) (1), Bracket (1), Template (1), Wire rope (1), Camera unit mounting screws (4), Shoulder screw M4 (1), Wrench (1), Audio cable (1), I/O cable (1), Installation Manual (1)
Optional accessories	
In-ceiling bracket YT-ICB45	
Heater Unit YT-HU75	
Design and specifications are subject to change without notice.	
Regular parts replacement	
Some of the parts that make up this product (electrolytic condenser, for example) need replacing regularly depending on their life expectancies. The lives of parts differ according to the environment or condition in which this product is used and the length of time it is used, so we recommend regular checks. Consult the dealer from whom you bought it for details.	